

IN THE CLAIMS:

Please cancel Claims 2, 3, 6, 7, 13, 14, 17, and 18 without prejudice to or disclaimer of the subject matter presented therein.

Please amend Claims 1, 4, 5, 8-10, 12, 15, 16, 19-21, 23, and 24 and add Claims 25-30 as follows.

1. (Currently Amended) An image processing apparatus, comprising:

holding means for holding plural pieces of frame data obtained from image data input at a plurality of positions, associated with position data obtained based on GPS, that indicate a position at which each piece of frame data is captured;

extraction means for extracting frame data whose position data nearly matches ~~determined to have been captured at substantially a same position~~ from said plural pieces of frame data held by said holding means;

deletion means for deleting frame data overlapping another piece of frame data extracted by said extraction means; and

storage means for storing, after associating with a position on a map, frame data remaining after a deleting process performed by said deletion means.

2. (Cancelled)

3. (Cancelled)

4. (Currently Amended) The apparatus according to claim [[2]] 1,  
wherein said image data is captured with a plurality of moving capture devices  
for capturing different directions, and  
said position data is obtained from a distance meter for measuring a moving  
distance of a moving object which moves with said plurality of capture devices.

5. (Currently Amended) The apparatus according to claim [[2]] 1, further  
comprising:

setting means for setting sampling intervals of frame data,  
wherein said extraction means extracts [[a]] frame data of frames having  
position data that is separated by a distance that ~~for which a distance obtained by a position~~  
~~data~~ is shorter than a distance corresponding to the sampling intervals set by said setting  
means.

6. (Cancelled)

7. (Cancelled)

8. (Currently Amended) The apparatus according to claim [[7]] 25,  
wherein said determination means computes least squares error between two  
pieces of frame data, and determines that the two pieces of frame data match each other  
when the computed least squares error is equal to or smaller than a predetermined value.

9. (Currently Amended) The apparatus according to claim [[7]] 25,

wherein said determination means computes a relative distance between two pieces of frame data based on corresponding points of the two pieces of frame data, and determines that the two pieces of frame data match each other when the computed relative distance is equal to or smaller than a predetermined value.

10. (Currently Amended) The apparatus according to claim [[7]] 25,

wherein said image is captured while a plurality of capture devices are moving when capturing images in different directions, and

said frame data adopted by said determination means is obtained by a capture device facing in a direction vertical to a moving direction.

11. (Original) The apparatus according to claim 1, further comprising:

setting means for setting sampling intervals of frame data;

obtaining means for obtaining a frame data group captured along a line between two points on a map;

computation means for comparing a number of pieces of frame data to be existing in the line between the two points based on the distance between the two points and the sampling intervals; and

thinning means for performing a thinning process on the plural pieces of frame data obtained by said obtaining means such that a number or pieces of frame data computed by said computation means can be obtained.

12. (Currently Amended) An image processing method, comprising the steps of:

extracting frame data determined to have been captured at substantially a same position obtained from holding means which holds plural pieces of frame data obtained from image data captured by a plurality of capture devices, wherein said holding means stores each of the plural pieces of frame data associated with position data obtained based on GPS, that indicate a position at which each piece of frame data is captured, and said extraction step extracts frame data matching in position data;

deleting frame data overlapping another piece of frame data extracted in an extracting step; and

storing frame data remaining after said deleting step, after associating with a position on a map.

13. (Cancelled)

14. (Cancelled)

15. (Currently Amended) The method according to claim [[13]] 12,  
wherein said image data is captured with a plurality of moving capture devices for capturing different directions, and  
said position data is obtained from a distance meter for measuring a moving distance of a moving object which moves with said plurality of capture devices.

16. (Currently Amended) The method according to claim [[13]] 12, further comprising the step of:

setting sampling intervals of frame data,

wherein said extracting step extracts [[a]] frame data for frames having position data that is separated by a distance that ~~from which a distance obtained by position data~~ is shorter than a distance corresponding to the sampling intervals set in said setting step.

17. (Cancelled)

18. (Cancelled)

19. (Currently Amended) The method according to claim [[18]] 26,

wherein said determining step computes least squares error between two pieces of frame data match each other when the computed least squares error is equal or smaller than a predetermined value.

20. (Currently Amended) The method according to claim [[18]] 26,

wherein said determining step computes a relative distance between two pieces of frame data based on corresponding points of the two pieces of frame data, and determines that the two pieces of frame data match each other when the computed relative distance is equal to or smaller than a predetermined value.

21. (Currently Amended) The method according to claim [[18]] 26,  
wherein said image data is captured while a plurality of capture devices are  
moving when capturing image in different directions, and  
said frame data adopted by said determination means is obtained by a capture  
device facing in a direction vertical to a moving direction.

22. (Original) The method according to claim 12, further comprising the steps  
of:

setting sampling intervals of frame data;

obtaining a frame data group captured along a line between two points on a  
map;

computing a number of pieces of frame data to be existing in the line between  
the two points based on the distance between the two points and the sampling intervals;  
and

performing a thinning process on a frame data group obtained in said obtaining  
step such that a number of pieces of frame data computed in said computed step can be  
obtained.

23. (Currently Amended) A computer-executable program, comprising:

a code of an extracting step of extracting frame data having position data that  
nearly matches ~~determined to have been captured at substantially a same position obtained~~  
from holding means which holds plural pieces of frame data obtained from image data

~~captured by a plurality of capture devices~~ input at a plurality of positions, associated with position data obtained based on GPS, that indicate a position at which each piece of frame data is captured;

a code of a deleting step of deleting frame data overlapping another piece of frame data extracted in an extracting step; and

a code of a storing step of storing, after associating with a position on a map, frame data remaining after said deleting step.

24. (Currently Amended) A storage medium storing a computer-executable program,

wherein said program comprises:

a code of an extracting step of extracting frame data having position data that nearly matches ~~determined to have been captured at substantially a same position obtained from holding means which holds plural pieces of frame data obtained from image data captured by a plurality of capture devices~~ input at a plurality of positions, associated with position data obtained based on GPS, that indicate a position at which each piece of frame data is captured;

a code of a deleting step of deleting frame data overlapping another piece of frame data extracted in an extracting step; and

a code of a storing step of storing, after associating with a position on a map, frame data remaining after said deleting step.

25. (New) An image processing apparatus, comprising:

holding means for holding plural pieces of frame data obtained from image data input while visiting a plurality of positions;

determination means for comparing two pieces of frame data and determining whether or not the two pieces of frame data have been captured at a same position;

extraction means for extracting frame data determined by said determination means to have been captured at the same position from said plural pieces of frame data held by said holding means;

deletion means for deleting frame data overlapping another piece of frame data extracted by said extraction means; and

storage means for storing, after associating with a position on a map, frame data remaining after a deleting process performed by said deletion means.

26. (New) An image processing method, comprising the steps of:

comparing two pieces of frame data obtained from holding means which holds plural pieces of frame data obtained from image data captured by a plurality of capture and determining whether or not the two pieces of frame data have been captured at a same position,

extracting frame data determined in said determining step to have been captured at the same position;

deleting frame data overlapping another piece of frame data extracted in an extracting step; and



storing frame data remaining after said deleting step, after associating with a position on a map.

27. (New) A computer-executable program comprising:

code for comparing two pieces of frame data obtained from holding means which holds plural pieces of frame data obtained from image data captured by a plurality of capture and determining whether or not the two pieces of frame data have been captured at a same position;

code for extracting frame data determined in said determining step to have been captured at the same position;

code for deleting frame data overlapping another piece of frame data extracted in an extracting step; and

code for storing frame data remaining after said deleting step, after associating with a position on a map.

28. (New) A storage medium storing a computer-executable program, wherein the program comprises:

code for comparing two pieces of frame data obtained from holding means which holds plural pieces of frame data obtained from image data captured by a plurality of capture and determining whether or not the two pieces of frame data have been captured at a same position;

code for extracting frame data determined in said determining step to have

been captured at the same position;

code for deleting frame data overlapping another piece of frame data extracted in an extracting step; and

code for storing frame data remaining after said deleting step, after associating with a position on a map.

29. (New) An image processing apparatus, comprising:

a holding unit configured to hold plural pieces of frame data obtained from image data input while visiting a plurality of positions, associated with position data obtained based on GPS, that indicate a position at which each piece of frame data is captured;

an extraction unit configured to extract frame data whose position data nearly matches from said plural pieces of frame data held by said holding unit;

a deletion unit configured to delete frame data overlapping another piece of frame data extracted by said extracted means; and

a storage unit configured to store, after associating with a position on a map, frame data remaining after a deleting process performed by said deletion unit.

30. (New) An image processing apparatus, comprising:

a holding unit configured to hold plural pieces of frame data obtained from image data input while visiting a plurality of positions;

a determination unit configured to compare two pieces of frame data and

determine whether or not the two pieces of frame data have been captured at a same position;

an extraction unit configured to extract frame data determined by said determination unit to have been captured at the same position from said plural pieces of frame data held by said holding unit;

a deletion unit configured to delete frame data overlapping another piece of frame data extracted by said extraction unit; and

a storage unit configured to store, after associating with a position on a map, frame data remaining after a deleting process performed by said deletion unit.